

Patent Claims

1. Coating installation with a vacuum chamber (1) exhibiting a suction port and a gas feed, in which a sputtering cathode (5) and a substrate holder (12) are arranged and for which the vacuum chamber (1) is divided into a cathode chamber (3) and a substrate chamber (4) by an screen (2) arranged between the sputtering cathode (5) and the substrate holder (12), characterized in that the cathode chamber (3) as well as the substrate chamber (4) each respectively exhibit a direct suction port (10, 16) and their own gas feed (8, 14), and that the gas feed (8) into the cathode chamber (3) is connected to a process gas source (9) and that the gas feed (14) for the substrate chamber (4) is connected to a reactive gas source (15).
2. Coating installation in accordance with claim 1, characterized in that the cathode chamber (3) and the substrate chamber (4) are each respectively connected to their own vacuum pump stand (11, 17).
3. Coating installation in accordance with claims 1 or 2, characterized in that in the cathode chamber (3) as well as in the substrate chamber (4), the gas feed (8, 14) and the suction port (10, 16) are arranged on opposite sides.
4. Coating installation according to at least one of the previous claims, characterized in that an anode (7) is arranged in the vacuum chamber (1) between the sputtering cathode (5) and the substrate (13).
5. Coating installation in accordance with claim 4, characterized in that the anode (7) in the substrate chamber (4) is arranged to be covered by the screen (2) between the screen (2) and the substrate holder (12).
6. Coating installation in accordance with claim 4, characterized in that the anode (7) is

formed by two unheated tubes.

7. Coating installation in accordance with at least one of the previous claims, characterized in that the anode (7) simultaneously forms the screen (2).

8. Coating installation in accordance with at least one of the previous claims, characterized in that the sputtering cathode (5) is a double magnetron cathode.

9. Coating installation in accordance with at least one of the previous claims characterized in that the sputtering cathode (5) is a rotating cathode.

10. Coating installation in accordance with at least one of the previous claims, characterized in that a metering device (18) for reactive gas is arranged in the cathode chamber (3) and that the regulated output (19) of the sputtering cathode (5) exhibited in the coating installation is directly dependent on the concentration of the reactive gas in the cathode chamber (3).

11. Coating installation in accordance with at least one of the previous claims, characterized in that the ratio of the focal screen length of the screen (2), measured in the transport direction of the substrate (13), to the width of the sputtering cathode (5), measured in the transport direction of the substrate (13), amounts to less than 0.75, preferably to between 0.5 and 0.3.